

# MATERIALS AND STRUCTURE FOR A HIGH RELIABILITY BGA CONNECTION BETWEEN LTCC AND PB BOARDS

## ABSTRACT OF THE DISCLOSURE

- 5           A ceramic circuit structure comprising a plurality of ceramic layers and at least one electronic component embedded within the plurality of ceramic layers. Within a first one of the ceramic layers is a via that passes through the ceramic layer. A contact pad is formed on a surface of the ceramic layer. A barrier cap is formed between the via and the contact pad. A dielectric ring covers a peripheral portion of the contact pad and an
- 10 adjacent portion of the dielectric material layer surface immediately surrounding the contact pad, such that any solder that is applied to the contact does not contact the peripheral portion of the contact pad or the ceramic material.